CLAIMS

What is claimed is:

1. A packet type arbitrator for a wireless local area network (WLAN), which comprises:

a first packet type detector, which detects a received packet and includes a false alarm checking module;

a second packet type detector, which detects the received packet and includes a timer; and

a packet type decider, which couples to the first packet type detector and the second packet type detector for determining the type of the received packet;

wherein after each of the packet type detectors gets the received packet and the timer and/or the false alarm checking module checks the packet, the packet type decider determines the type of the packet being received.

2. The packet type arbitrator of claim 1, wherein the false alarm checking module uses a delay correlation value or any other value that helps determine the existence of a packet and compares it with a threshold so that when the packet type detector identifies the received packet is of the type corresponding to the packet type detector if the value is greater than the threshold.

3. The packet type arbitrator of claim 1, wherein the timer uses a time parameter to check whether the checking is done within the time specified by the time parameter.

4. The packet type arbitrator of claim 1, wherein the first packet type has a larger strength while the second packet type has a smaller strength.

5. The packet type arbitrator of claim 4, wherein any packet with a smaller strength is detected earlier than any packet with a larger strength.

6. A packet type arbitrating method for a wireless local area network (WLAN), which comprises the steps of:

associating a first packet type with a larger strength and a second packet type with a smaller strength;

installing a false alarm checking mechanism in a first packet type detector;

installing a timer in a second packet type detector;

starting a false alarm checking when the first packet type detector receives a packet;

starting a timer checking when the second packet type detector receives a packet; and

using a packet type decider determines the type of the packet being received after each of the packet type detectors receives a packet and the false alarm checking or the timer checks the packet.

7. The method of claim 6, wherein the any packet with a smaller strength is detected earlier than any packet with a larger strength.

8. The method of claim 6, wherein when both the first packet type detector and the second packet type detector detect the received packet the type of the received packet is determined by whether the false alarm checking passes through.

9. The method of claim 6, wherein the packet type decider determines the received packet is of the first packet type if the false alarm checking passes.

10. The method of claim 6, wherein the packet type decider determines the received packet is of the second packet type if the false alarm checking fails.

11. The method of claim 6, wherein the false alarm checking module uses a delay correlation value or any other value that helps determine the existence of a packet and compares it with a threshold so that when the packet type detector identifies the received packet is of the type corresponding to the packet type detector if the value is greater than the threshold.

12. The method of claim 6, wherein the timer uses a time parameter to check whether the checking is done within the time specified by the time parameter.